Abstract

The invention relates to a cationised polysaccharide product comprising a polysaccharide having at least one first substituent having an aromatic group and at least one second substituent having no aromatic group. The invention further relates to a cationised polysaccharide product comprising one or more polysaccharides having at least one first substituent having an aromatic group and one or more polysaccharides having at least one second substituent having no aromatic group. The present invention also relates to a method for the preparation of a cationised polysaccharide product comprising reacting one or more polysaccharides with at least one aromatic agent and at least one non-aromatic agent. The invention further relates to a method for the preparation of a cationised polysaccharide product comprising reacting a first polysaccharide with at least one aromatic agent, reacting a second polysaccharide with at least one second non-aromatic agent, and then mixing the polysaccharides obtained.

The present invention further relates to a process for production of paper from an aqueous suspension containing cellulosic fibres, and optionally fillers, which comprises adding to the suspension a cationised polysaccharide product comprising a polysaccharide having (i) at least one first substituent having an aromatic group, and (ii) at least one second substituent having no aromatic group, forming and draining the suspension on a wire. The invention also relates to a process for production of paper from an aqueous suspension containing cellulosic fibres, and optionally fillers, which comprises adding to the suspension a cationised polysaccharide product comprising (i) at least one polysaccharide having at least one first substituent having an aromatic group and (ii) at least one polysaccharide having at least one second substituent having no aromatic group, wherein one or both of the polysaccharides according to (i) and (ii) are cationic and/or amphoteric; forming and draining the suspension on a wire. The invention further relates to a process for production of paper from an aqueous suspension containing cellulosic fibres, and optionally fillers, which comprises separately adding to the suspension (i) at least one polysaccharide having at least one first substituent having an aromatic group; and (ii) at least one polysaccharide having at least one second substituent having no aromatic group, wherein one or both of the polysaccharides according to (i) and (ii) are cationic and/or amphoteric; forming and draining the suspension on a wire.

The invention relates to a process for production of paper from an aqueous suspension containing cellulosic fibres, and optionally fillers, which comprises adding to the suspension a cationised polysaccharide product comprising a polysaccharide having at least one first substituent having an aromatic group, and at least one second substituent having no aromatic group, forming and draining the suspension on a wire.

Election/Restrictions

The Office Action identifies two species (I and II) and requires election of one of these species for prosecution on the merits. The Applicants elect species I as identified in the Office Action. In Applicants' view, claims 1-15 are readable on this species I.

The Office Action further requires confirmation of the provisional election without traverse made by Michelle Burke to prosecute the invention embodied in claims 1-15. The Applicants confirm such election.

Correction of Typographical Error

In claim 3 as filed, the comma after the phrase "carbon atoms" was inadvertently underlined. Claim 3 is amended herein to correct this typographical error.

Specification

The Office Action objects to the abstract because it is too long. The specification is amened herein to provide an abstract of acceptable length. Support for this amendment may be found in the abstract as filed.

35 USC 112

The Office Action raises concern regarding the recitation in Claim 11 of "the anionic material" stating that there is no antecedent basis in claim 1 for such a limitation. By amendment above, claim 11 is now dependent on claim 8, which provides the noted antecendent basis. Support for this amendment may be found in the claims as filed.

35 USC 102

Claims 1,3-5, 7-10 and 13-15 are rejected under 102(b) as being anticipated by Persson et al (WO 99/55964). The Applicants respectfully traverse. As the

Applicants read Persson, there is no disclosure of a first subsitituent having an aromatic group and a second substituent having no aromatic group. More specifically, the groups R1, R2 and R3 in Persson are not first and second substituents to a polysaccharide as required by the current claims. Rather, they are all part of the same single substituent to the polysaccharide and accordingly cannot anticipate the current claims. On this basis alone the rejection should be withdrawn.

35 USC 103

Claims 2, 11 and 12 are rejected under 35 USC 103(a) as being unpatentable over Persson in view of Froelich et al (WO 2002/12626). Claim 6 is rejected under 35 USC 103(a) as being unpatentable over Persson in view of Klemets et al (WO 99/55965). Applicants fail to see that either Froelich or Klemets cure the deficiency in Persson. On this basis alone the asserted combinations of references do not render the current claims obvious. The Applicants respectfully submit that these rejections should be withdrawn.

Conclusion

In view of the amendments and comments above, Applicants submit that the pending claims are in allowable form and respectfully request the issuance of a timely Notice of Allowance in this case. The Examiner is invited to contact the undersigned at the telephone number below if thought helpful in the progress the case.

Respectfully submitted,

David H. Vickrey
Attorney for Applicants
Reg. No.: 30,697

Akzo Nobel Inc.
Intellectual Property Dept.
7 Livingstone Avenue
Dobbs Ferry, New York 10522-3408
(914) 674-5460